



## Technology Needs Assessments : Introduction to TNA project and Overall Approach

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# Technology Needs Assessments

(A GEF Funded UNEP Project)

## Introduction to TNA project and Overall Approach

Dr. James Haselip  
UNEP Risoe Centre (URC), Denmark

**Inception Mission, (Round Two Countries)**  
**April 11-13, Chisinau, Moldova**

# UNEP Risoe Centre (URC)

URC was established in 1990

International staff of 30+ from  
15 different countries

Based on an agreement  
between UNEP, Risoe DTU and  
Danida

General mandate is to support  
and promote UNEP activities in  
the areas of energy and  
climate change, with a special  
emphasis on developing  
countries



## The setup of URC

- Integrated part of UNEP DTIE Paris
- Core research budget (overall 8-10m USD turnover)
- Access to a broad range of energy scientists and specialists at Risø DTU
- A wide network of collaborating institutions, NGO's and partners in more than 40 developing countries.
- A non profit public institution with high demands to procedures, transparency and accounting.



# URC thematic structure and strategic objectives

## Cleaner Energy Development

- Facilitating cleaner energy technology transfer
- Improve access to cleaner and efficient energy technologies
- Analytical support for overcoming political and institutional barriers

## Energy and Carbon Finance

- Piloting new approaches within energy and carbon finance
- Enhancing a more equitable regional CDM project distribution
- Facilitating a more efficient carbon market

## Climate Strategies and Resilient Development

- New approaches for assessing cc vulnerability, adaptation and mitigation
- Capacity building for integrating adaptation in dc policies and planning.
- Furthering the understanding of cc impacts and response options

# The URC approach to activities

Activities in the tree thematic clusters are characterized by a common approach

- Combining development of new analytical and scientific approaches with testing in practical pilot applications
- Capacity development at the national and regional levels
- Close collaboration with partner institutions in DC's



# TNA Project: content of presentation

- ☐ Introduction to project
- ☐ TNA approach
- ☐ Institutional Structure
- ☐ Technology Action Plan
- ☐ Enabling environment
- ☐ Country work plan
- ☐ Financing options

# Project highlights

Project start date - November 2009

Selection of 15 countries for the first round – December 2009

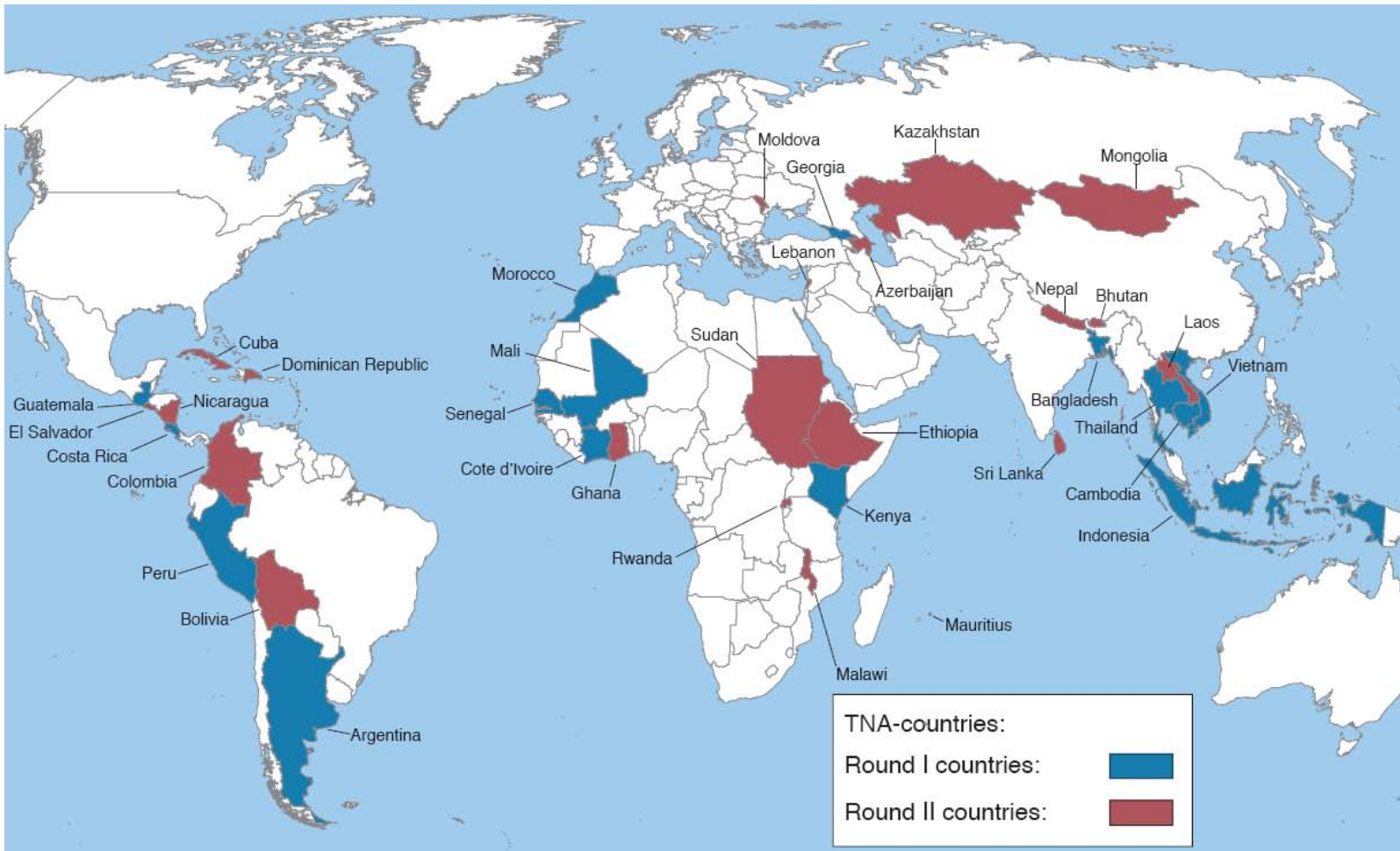
Side Event at Cancun – December 2010

Completion of work by first round countries due in 18 months  
June/ July 2011.

Second round, involving 21 countries launched - October 2010

Regional Centres, URC and International Consultants to provide technical support, capacity building.





# TNA- Project Objectives

- To **identify** and **prioritize**, through **country-driven participatory processes**, **technologies** that can contribute to **mitigation** and **adaptation** goals of the participant countries, while meeting their national **sustainable development** goals and priorities (TNA).
- To identify **barriers** hindering the **acquisition**, **deployment**, and **diffusion** of prioritized technologies.
- To develop Technology Action Plans (TAP) specifying **prioritized technologies**, activities and **enabling frameworks** to overcome the **barriers** and facilitate the transfer, adoption, and diffusion of selected technologies in the participant countries.

# Why This Approach?

## First Round TNAs – Lessons Learnt

- First Round 1999- onwards
- UNDP and UNEP Recommendations (2008)
  - Priority to strengthening national capacity for TT
  - Strengthen adaptation-side
  - Well-defined roles for stakeholders and greater involvement
  - Well-defined activities and provision of timely technical support
  - Support the implementation of the TNA findings

# TNA Best Practices

(Source: UNFCCC Workshop, 2007)

- Establish a solid institutional set-up
  - Project coordinator and team (of experts). Right candidates.
  - Stakeholders from key relevant institutions
- Work plan with clear objectives/roles, in consultation with stakeholders
- Apply new methodology, adapt guidance to national circumstances
- Technology prioritization appropriate to national circumstances
- Use a wide range of criteria, identify a small number of key sectors
- Conduct a barrier analysis for the selected/prioritized technologies
- Draw implementation plans to address the barriers identified
- Develop project proposals

# Steps in Preparing Technology Action Plans (TAP)

Step 1

- **Prioritizing technologies (TNA)**
  - Multi criteria analysis, development priorities, marginal abatement costs, local employment, etc

Step 2

- **Barrier analysis**
  - Legal, institutional, social, knowledge

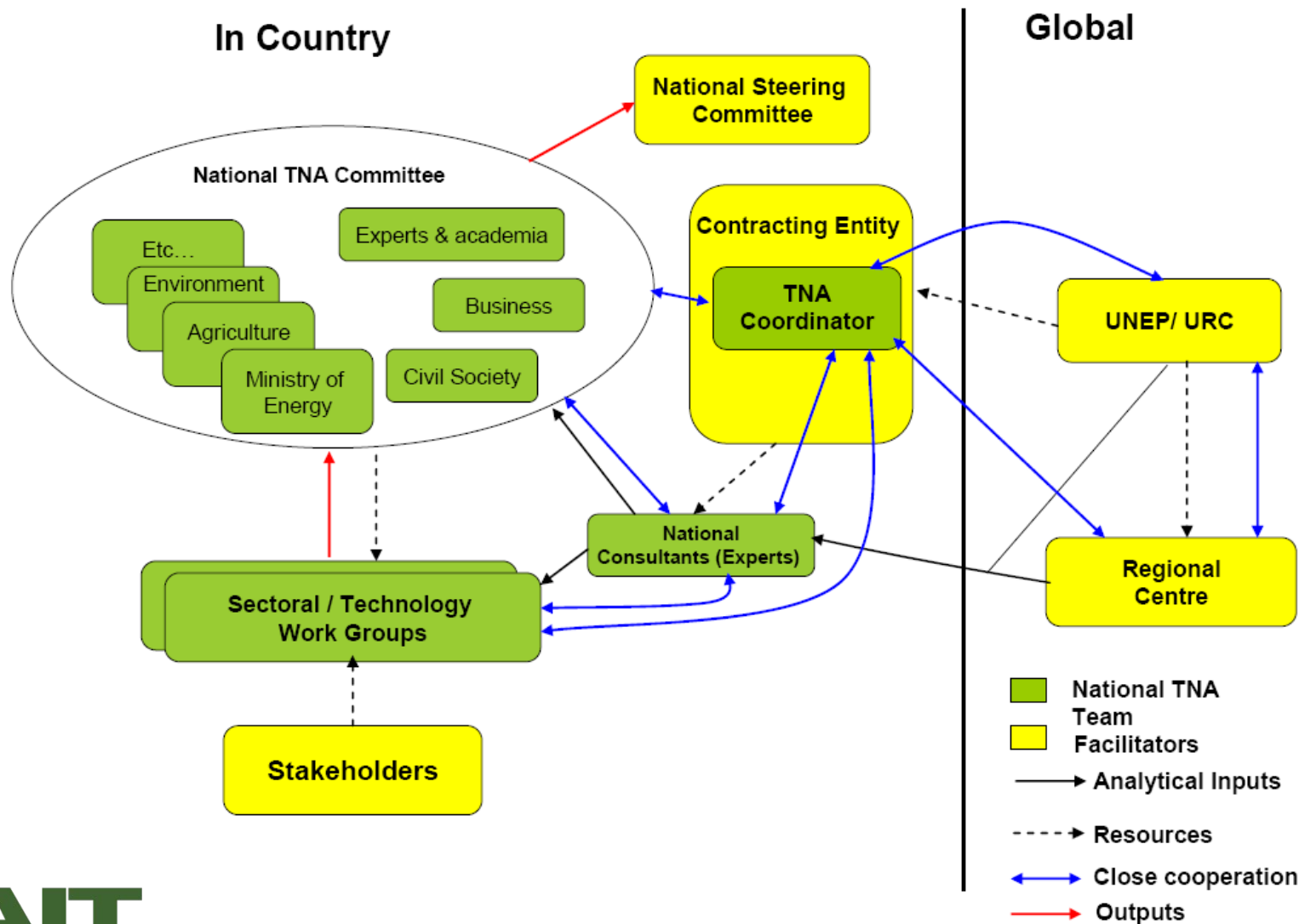
Step 3

- **Policy options – enabling framework**
  - Legal, institutional, Finance

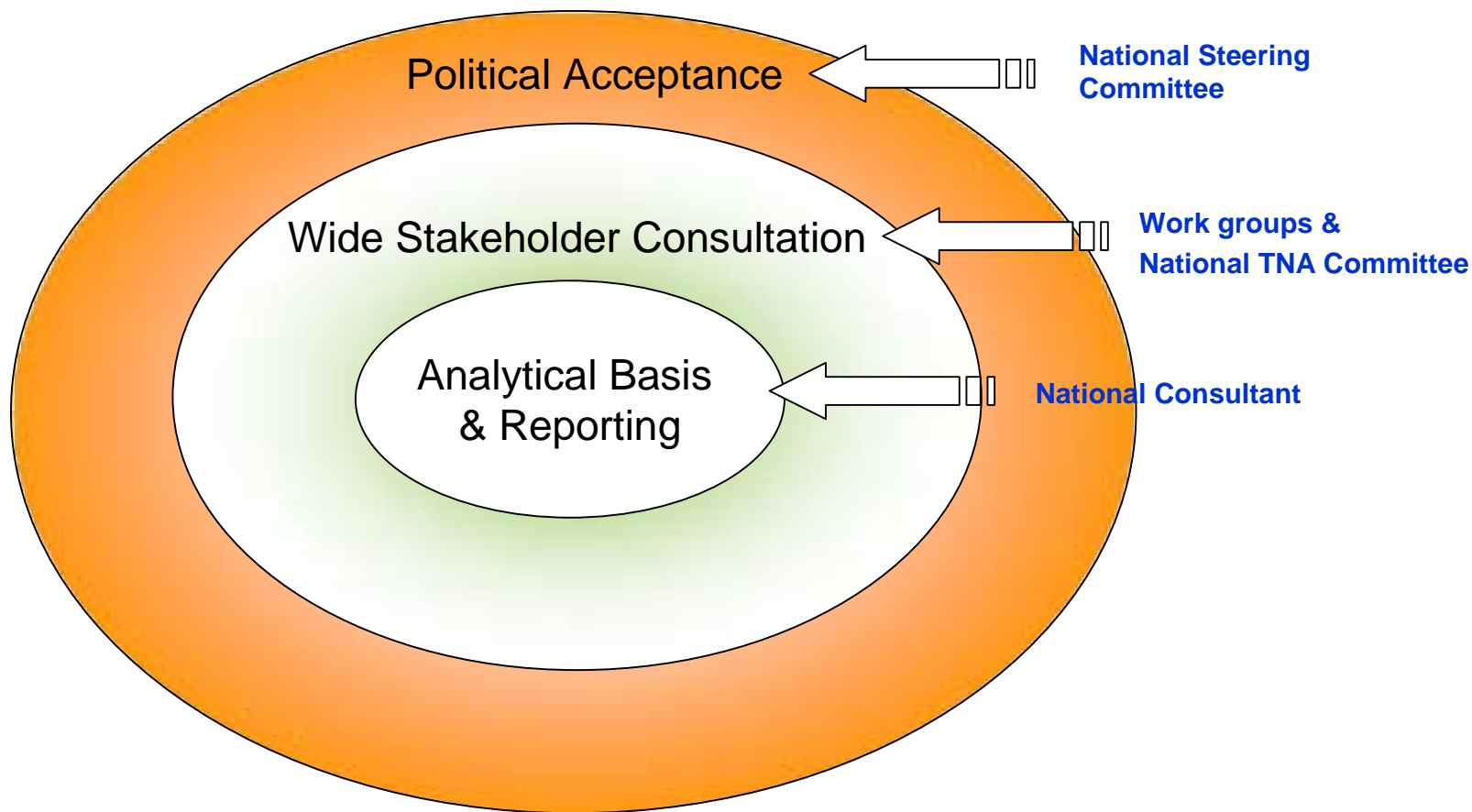
Step 4

- **Technology action plan**
  - Prioritized policy options

# Institutional Structure for TNA project



# Role of in-Country Institutional Elements

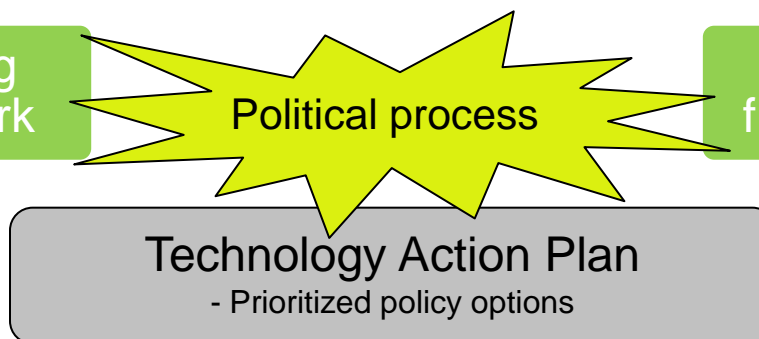


# From TNAs to TAPs

## Mitigation technologies

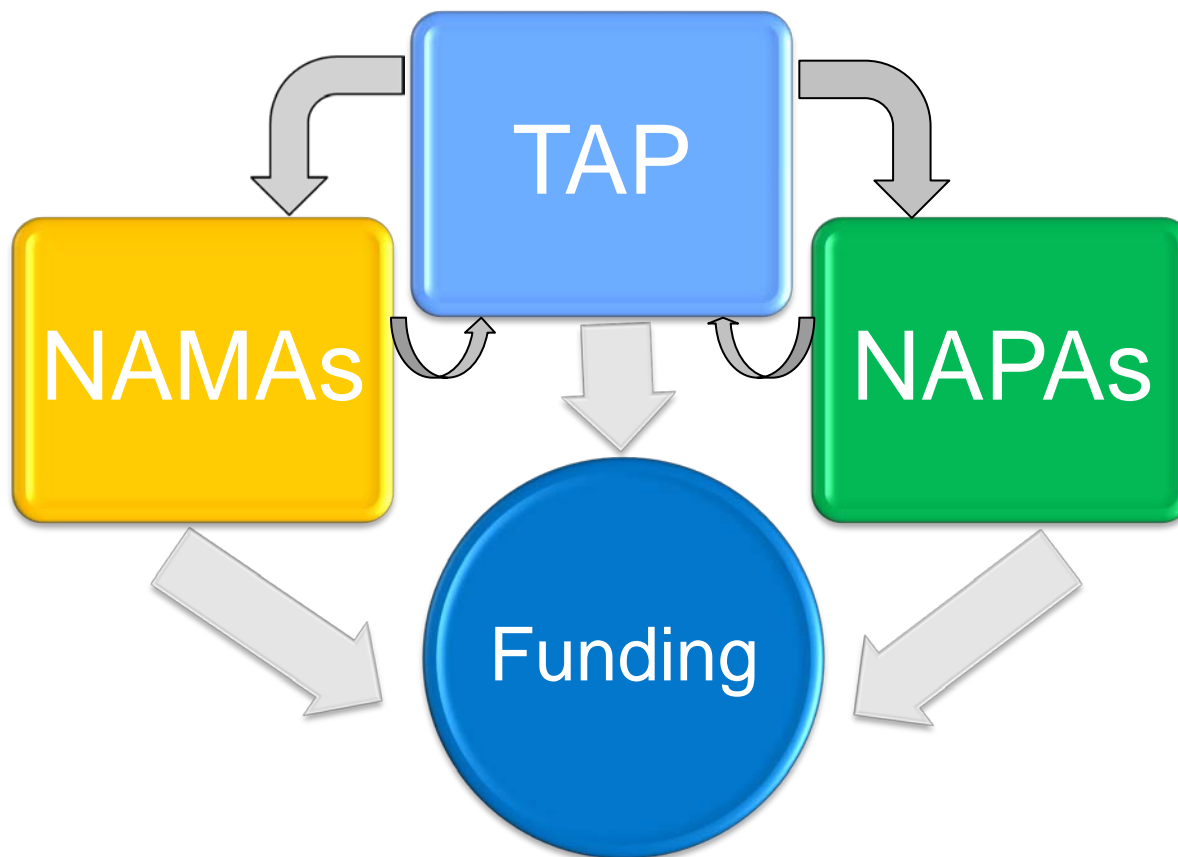


## Adaptation technologies





# TAP, NAMAs and NAPAs



**Potential financial resources for adaptation, mitigation and technology cooperation**  
(billions of United States dollars)

<b>Proposal</b>	<b>Source of funding</b>	<b>Purpose</b>	<b>Notes</b>	<b>Nominal annual level of funding</b>
<b>Increasing the scale of existing mechanisms</b>				
European Union	Continue 2 per cent levy on SoP from CDM	A	Ranging from low to high demand in 2020	0.2–0.68
Bangladesh, Pakistan	3–5 per cent levy on SoP from CDM	A	Ranging from low to high demand in 2020	0.3–1.7
Many Parties	CDM and other crediting mechanism	M	In 2020	10–34
<b>Defined budgetary contributions from developed countries</b>				
Group of 77 and China	0.5–1 per cent of GNP of Annex I Parties <sup>a</sup>	A, M	Calculated for 2007 GDP	201–402
<b>Contributions raised through market-based mechanisms and taxation</b>				
Mexico	Contributions based on GDP, GHG and population and possibly auctioning permits in developed countries	A, M	Initial phase	10
Norway	2 per cent auctioning of AAUs	A	Annually	15–25
Switzerland	2 USD per t CO <sub>2</sub> with a basic tax exemption of 1.5 t CO <sub>2</sub> eq per inhabitant	A	Annually	18.4
Republic of Korea	Crediting NAMAs	M		Uncertain
Colombia, LDCs	2 per cent levy on SoP from joint implementation and emissions trading	A	Annually, after 2012	0.03–2.25
LDCs	Levy on international air travel (IATAL)	A, M	Annually	4–10
LDCs	Levy on bunker fuels (IMERS)	A	Annually	4–15
Tuvalu	Auction of allowances for international aviation and marine emissions	A, M	Annually	28

**Source: UNFCCC (FCCC/TP/2008/7, Nov 2008)**

## New bilateral and multilateral climate-related funding initiatives

	Estimated level of funding (millions)		USD million eq <sup>a</sup>	Purpose	Type	Period	Nominal annual level of funding (USD million)
<b>Bilateral initiatives</b>							
Cool Earth Partnership (Japan)	USD	10 000	10 000	A, M	G, L	2008–2012	2 000
ETF-IW (United Kingdom)	GBP	800	1 182 <sup>b</sup>	A, M	G, L	2008–2010	394
Climate and Forest Initiative (Norway) <sup>c</sup>				M	G, L		<600
UNDP-Spain MDG Achievement Fund	EUR	90	114	A, M	G	2007–2010	28.5
GCCA (European Commission) <sup>d</sup>	EUR	60	76	A, M	G	2008–2010	25.3
International Climate Initiative (Germany) <sup>e</sup>	EUR	600	764	A, M	G	2008–2012 <sup>f</sup>	153
IFCI (Australia)	AUD	200	132	M	G	2007–2011	26.4
<b>Multilateral initiatives</b>							
UN-REDD <sup>g</sup>	USD	35	35	M	G	Not available	Not available
Forest Carbon Partnership Facility (World Bank) <sup>h</sup>	USD	300	300	M	G, L	2008–2020	23
Climate Investment Funds (World Bank), includes	USD	6 341	6 341			2009–2012	1 558
Clean Technology Fund	USD	4 334	4 334	M	G, L		
Strategic Climate Fund, includes	USD	2 006	2 006		G, L		
Forest Investment Programme	USD	58	58	M	G, L		
Scaling-up Renewable Energy	USD	70	70	M	G, L		
Pilot Programme for Climate Resilience	USD	240	240	A	G, L		
Source: UNFCCC (FCCC/TP/2008/7, Nov 2008)							

**Source: UNFCCC (FCCC/TP/2008/7,  
Nov 2008)**

## Adaptation Funding Option

Adaptation funding option	Description
Adaptation Fund (AF)	Financed from the share of proceeds on the CDM
Adaptation to Climate Change Initiative	Funded by Australia's Aid Program (AusAID).
African Development Fund (ADF)	Funded by the African Development Bank (AfDB) Group.
Cool Earth Partnership	Funded by the Government of Japan.
Cooperation Fund for the Water Sector (CFWS)	Funded by the Asian Development Bank (ADB).
Development Market Place (DM)	A competitive grant program administered by the World Bank.
Disaster Risk Management Programme	Funded by the Caribbean Development Bank.
Global Climate Change Alliance (GCCA)	Funded by the European Commission Development.
Global Facility for Disaster Reduction and Recovery (GFDRR)	Funded by the World Bank.
IDB (Policy Base) Loan	Funds projects focusing on policies.
International Climate Initiative	Funded by the Federal Environment Ministry in Germany.
International Development Association (IDA)	Funded by the World Bank.
Least Developed Countries Fund (LDCF)	Funded through the GEF.
MDG Achievement Fund (MDG-F)	Funded by the Spanish government.
Nordic Development Fund (NDF)	Funded by development cooperation budgets in Denmark, Finland, Iceland, Norway and Sweden.
Program on Forests (PROFOR)	Funded by the World Bank.
Rain Forest Trust Fund (RFT)	Funded by the World Bank.
Small Activities Scheme (SAS)	Funded by Australia's Aid Program (AusAID).
Small Grants Programme (SGP)	Funded through the GEF.
Special Climate Change Fund (SCCF)	Funded through the GEF.
Strategic Climate Fund (SCF)	Funded by the WB, AfDB, ADB, EBRD, and IDB
The Inter American Development Bank-Netherlands Water Partnership Program (INWAP)	Funded by the Inter-American Development Bank (IDB).
Water Financing Partnership Facility (WFPF)	Funded by the Asian Development Bank (ADB).

Source: UNFCCC website

# Country Work-Plan (Appendix III)

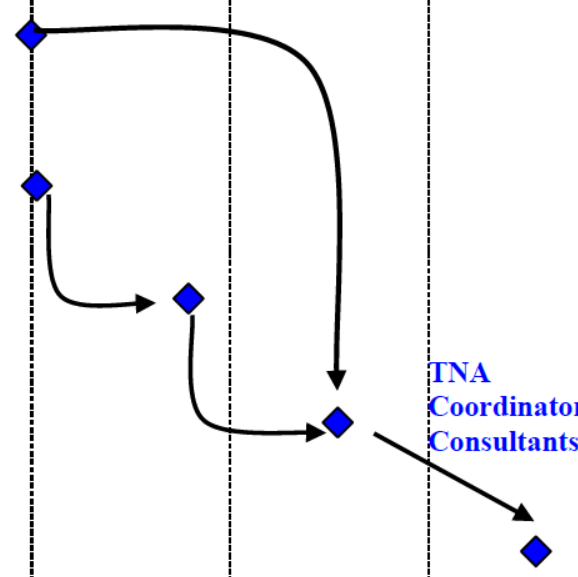
No.	Activity	Year Month	2011				2012		
			1-3	4-6	7-9	10-12	13-15	16-18	19-21
4.1	Appoint a TNA Coordinator and Establish the National TNA Committee		■						
4.2	Organise Stakeholders		■						
4.3	Set-up guidelines			■					
4.4	Develop a detailed draft work plan			■					
4.5	Identify institutions for data and expert support			■					
4.6	Hold National Inception Workshop and finalize the work-plan based on stakeholders feedback and contract consultants			■					
4.7	Participate in Regional Workshops (a) Capacity Building workshops (b) Experience Sharing Workshop			■	■			■	
4.8	Prioritizing Sectors and Technologies			■	■	■			
4.9	Prepare the prioritized technologies report (TNA report)					■			
4.10	Carry out market assessment- analyze barriers and develop an Enabling Framework for deployment and diffusion of prioritized technologies				■	■	■		
4.11	Prepare a Technology Action Plan (TAP)						■	■	
4.12	Seek political endorsement and integration of the TAP into national energy policy/ development plans							■	
4.13	Conduct techno-economic appraisal and develop proposals for a few selected projects					■	■	■	
4.14	Prepare and implement official launches of selected (high-profile) project proposals (set of proposals).							■	
4.15	Prepare and submit the Final Report							■	

# TNA Project Milestones

Sr. No.	Milestone	Scheduled Date
	Award of project by GEF	October 2009
	Project start date	November 2009
	Completion of project	October 2012
1	Selection of 2 <sup>nd</sup> round countries	October 2010
2	Agreement with countries signed after country consultations and work plan finalization	March / April 2011
3	Capacity building workshop and approach	June 2011 and October 2011
4	Experience sharing workshops	March 2012
5	Side event at COP	December 2011
6	Release of TNA reports	December 2011
7	Release of TAPs	May 2012
8	Final country report submissions	June – August 2012

# TNA Project Milestones

Milestones to be achieved before the 1<sup>st</sup> capacity building workshop

Milestone	Date	31-Mar	30-Apr	31-May	30-Jun
Appointment of TNA Coordinator & Contract Signatures	31-Mar				
Appointment of National TNA Committees	31-Mar				
National Workshop & identification of sectors	25-Apr				
Appointment of National Consultants	15-May				
1 <sup>st</sup> Regional Capacity building workshop	June (TBA)				

Arrows show the relationship between different milestones



# Thank You!



## TNA contacts for Moldova

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Project website:

<http://tech-action.org//>

[www.sdcc.ait.ac.th/tna-mitigation](http://www.sdcc.ait.ac.th/tna-mitigation)